CANADA COVID-19 WEEKLY EPIDEMIOLOGY REPORT

01 AUGUST TO 07 AUGUST 2021 (WEEK 31)

For week 31 (01 August to 07 August, 2021), the Public Health Agency of Canada has produced a condensed *COVID-19 weekly epidemiology report*. For more information on most recent Canadian surveillance data on COVID-19, please refer to the COVID-19 Daily Epidemiology Update page available here: https://health-infobase.canada.ca/covid-19/epidemiological-summary-covid-19-cases.html

Published: 13 August 2021

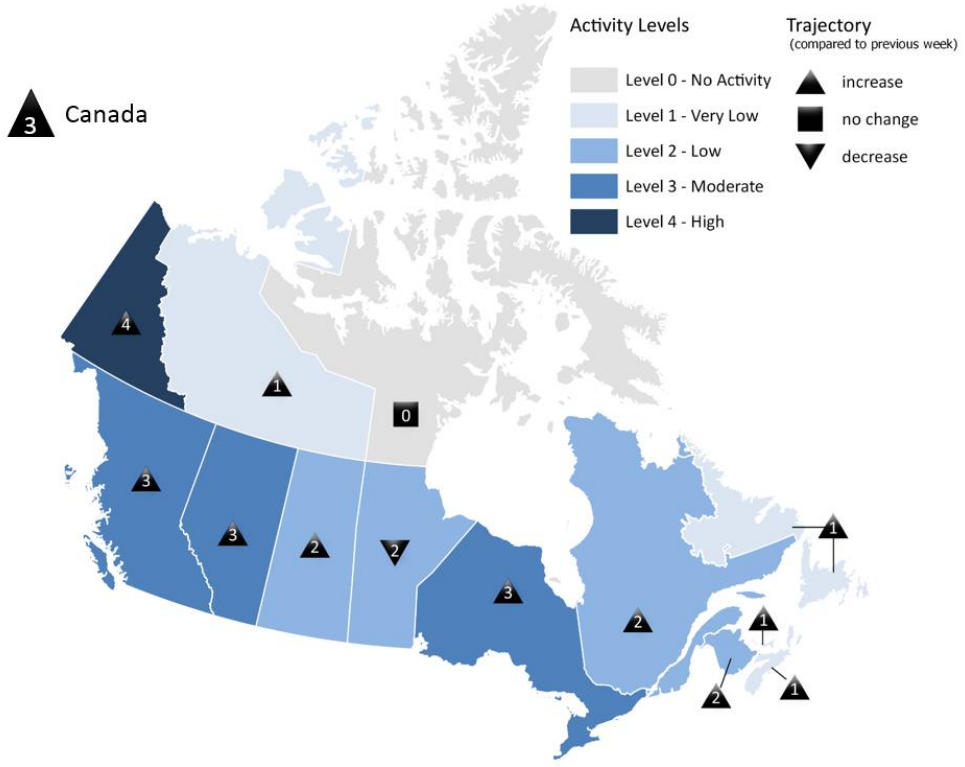
7 902 (↑ 58%) **New cases reported in the last 7 days[a]**	**38 (↓ 6%)** **New deaths reported in the last 7 days[a]**
1 129 (↑ 58%) **Average number of cases reported daily in the last 7 days[a]**	**5 (↓ 6%)** **Average number of deaths reported daily in the last 7 days[a]**
56 291 (↑ 9%) **Average number of tests performed daily in the last 7 days[b]**	**2.3% (↑ 0.8)** **Average percentage of positive tests in the last 7 days[b]**

[a]Source: Provincial and Territorial Ministry of Health (MOH) websites as of 07 August 2021

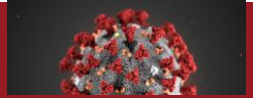
[b]Source: National Microbiology Laboratory (NML) data for laboratory analyses as of 07 August 2021

Note: The percentages are calculated based on the difference in the total number of cases, deaths, or tests in the past 7 days compared to the prior 7 days, divided by the number of cases, deaths, or tests in the prior 7 days. The change in the percentage of positive tests is based on the difference in percentage points compared to the previous week.

Figure 1. Map of COVID-19 activity levels in Canada, by province and territory for week 31 (01 August to 07 August 2021)



Note: COVID-19 activity level assessments are based on data from provincial and territorial partners for week 31 (01 August to 07 August 2021). For more up to date information and for public health recommendations or risk assessments, please refer to the provincial and territorial MOH websites. Additional information on COVID-19 activity levels, how they are calculated, and relevant data caveats, can be found in the Technical Notes.



KEY MESSAGES

- During week 31 (01 August to 07 August 2021), Canada reported **moderate and increasing COVID-19 activity** compared to the previous week (week 30: 25 July to 31 July 2021). Out of all the other provinces and territories, only Nunavut reported no COVID-19 activity for week 31.

- There was an average of **1 129 new cases reported daily** during week 31, representing a **58% increase** compared to the previous week. Following a decrease in the number of cases reported since mid-April 2021, the daily number of reported cases has been gradually increasing since mid-July, 2021.

- During week 31, **three provinces and territories** (Manitoba, Yukon and Nunavut) reported a **decrease or no new cases,** compared to the previous week.

- **Daily rates of cases per 100 000 population are increasing as of** mid-July 2021. Among both males and females, case rates are highest among individuals in the 20-39 year age groups and lowest among individuals in the 60 to 79 and 80 years and older age groups.

- Since the start of January 2021**,** the number of **outbreaks in long-term care facilities, retirement residences, and acute care settings have decreased** and remained relatively low and stable. In **industrial settings**, a rapid decrease in the number of outbreaks was observed in late-April 2021 and has remained relatively **low and stable**.

- During week 31, **an average of 56 291 tests were performed daily** for COVID-19 across Canada. The weekly percentage of tests positive was **2.3%,** an increase compared to the previous week.

- Although cases are declining, **variants of concern (VOCs) represent the majority of reported COVID-19 cases**. B.1.617.2 (Delta) accounts for 43% of all reported COVID-19 cases and 65% of newly reported VOC cases.

- There was an average of **five new deaths reported daily** during week 31, representing a **6% decrease** compared to the previous week.

- The number of **hospitalizations and ICU admissions increased** during week 31. On 07 August 2021, there were 530 hospitalizations and 202 cases in ICU, representing a 2.7% increase in the seven-day moving average of hospitalized cases, and 7.1% decrease in ICU admissions, compared to one week prior

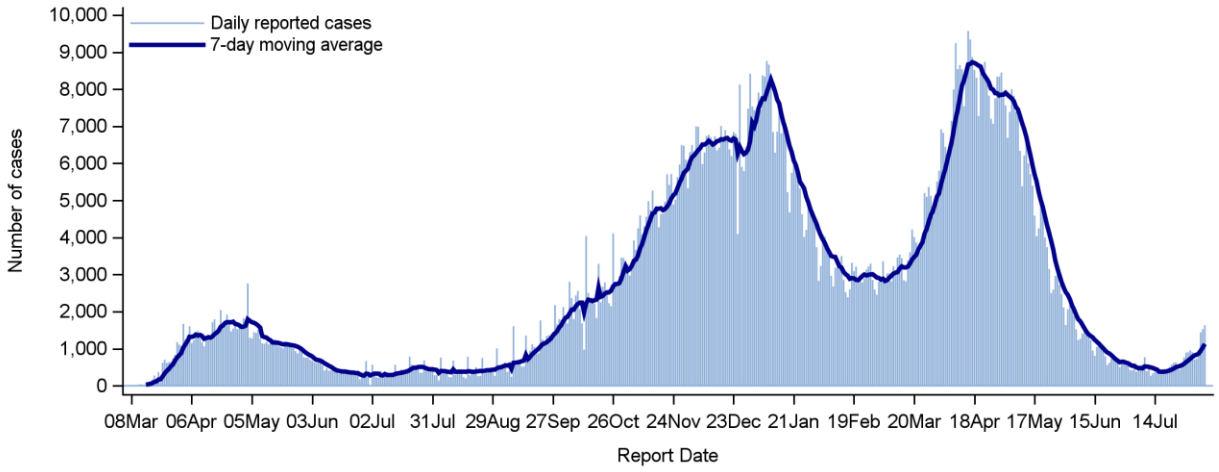
- According to forecasting, between **1 459 090 to 1 481 330 cumulative reported cases** and **26 735 to 26 975 cumulative reported deaths** are expected by 22 August 2021.

NATIONAL DEMOGRAPHICS AND TRENDS

NATIONAL TRENDS IN CASES AND ACTIVITY LEVELS

- During week 31 (01 August to 07 August 2021), Canada reported moderate and increasing COVID-19 activity compared to the previous week (week 30: 25 July to 31 July 2021). Out of all the other provinces and territories, only Nunavut reported no COVID-19 activity for week 31.
    - Note that COVID-19 activity levels are based on an assessment of weekly incidence rates, weekly percent positivity, and weekly proportions of cases with unknown or unlinked exposures. See Technical Notes for more details.
- During week 31, a total of 7 902 cases of COVID-19 were reported in Canada, an average of 1 129 cases per day. Following a decrease in the number of cases reported since mid-April 2021, the daily number of reported cases has been gradually increasing since mid-July, 2021.
- The number of new cases reported in week 31 represents a 58% increase compared to week 30 (Figure 2).

Figure 2. Daily number of reported COVID-19 cases in Canada (and 7-day moving average), as of 07 August 2021 (n= 1 439 506)



Source: Provincial and Territorial MOH websites

Note: The 7-day moving average is a trend indicator that captures the arithmetic mean of the daily reported cases over the previous seven days. The moving average helps smooth out day-to-day variability in reporting, filtering out the "noise" of short-term fluctuations. Fluctuations can be attributed to retrospective data, non-reporting on the weekends or provinces or territories reporting cases at a reduced frequency. Spikes in cases may be due to regular reporting variations (e.g., lower reporting on weekends or holidays), or periodic reporting of previous cases by provinces and territories.

Ten of the thirteen provinces and territories reported new cases during week 30 (Table 1):

- The weekly number of new cases decreased in Manitoba, and Yukon compared to the previous week.
- The weekly number of new cases increased in British Columbia, Alberta, Ontario, Quebec, Saskatchewan, Newfoundland and Labrador, Nova Scotia and New Brunswick compared to the previous week.
- No new cases were reported in Nunavut.
- Cases increased by 27% in Ontario and increased by 77% in Québec, compared to the previous week. Together, these provinces accounted for about 39.0% of the cases reported during week 31.

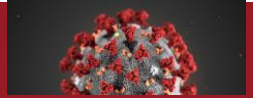


Table 1. Trends of new cases in Canada and by province or territory, during week 31 (01 August to 07 August 2021)

Province/Territory	Average number of cases reported daily (Week 31)	Weekly number of cases reported [a]		Percent change (%)[a]	Weekly incidence rate per 100,000 population (Week 31)
		25 July to 31 July (Week 30)	01 August to 07 August (Week 31)		
British Columbia	316	1 113	2 212	99%	43.0
Alberta	268	1 224	1 873	53%	42.4
Saskatchewan	65	284	453	60%	38.4
Manitoba	25	207	173	-16%	12.5
Ontario	231	1 280	1 620	27%	11.0
Québec	209	829	1 464	77%	17.1
Newfoundland and Labrador	1	1	5	400%	1.0
New Brunswick	7	15	50	233%	6.4
Nova Scotia	2	6	14	133%	1.4
Prince Edward Island	1	0	4	N/A	2.5
Yukon	5	47	33	-30%	78.5
Northwest Territories	0	0	2	N/A	4.4
Nunavut	0	0	0	N/A	0.0
Canada[b]	**1 129**	**5 006**	**7 902**	**58%**	**20.8**

Source: Provincial and Territorial MOH websites. Rates calculated using July 1, 2020, post-census population estimate.
Note: Recent case data corrections impacting cases that occurred prior to the last two weeks are excluded from weekly counts in this table.
[a] The percentage is calculated based on the difference in the total number of cases in the past 7 days compared to the prior 7 days divided by the number of cases in the prior 7 days. Note that for provinces/territories with low case counts, an increase or decrease of only a few cases leads to a large percentage change. If the denominator is zero, the percent change cannot be calculated.
[b] Includes 13 cases identified in repatriated travelers (Grand Princess Cruise ship travelers) who were under quarantine in Trenton in March 2020.

Age-standardized rates take into account the differences in population size and age structure between provinces and territories to allow for more valid comparisons of COVID-19 spread in Canada.

Table 2 presents the age-standardized incidences rate by province or territory for week 31.

- Saskatchewan reported the highest age-standardized incidence rate (49.8 cases per 100 000 population).
- The second and third highest age-standardized incidence rates were reported by British Columbia (38.9 cases per 100 000 population) and Quebec (37.4 cases per 100 000 population)

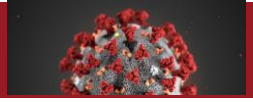


Table 2. Age-standardized incidence rates by province or territory for week 31 (01 August to 07 August 2021)

Province/Territory	Age-standardized incidence rate per 100 000 for week 31
British Columbia	38.9
Alberta	29.9
Saskatchewan	49.8
Manitoba	11.9
Ontario	11.3
Québec	37.4
Newfoundland and Labrador	0.0
New Brunswick	0.0
Nova Scotia	1.4
Prince Edward Island	2.5
Yukon	0.0
Northwest Territories	2.0
Nunavut	0.0
Canada	23.5

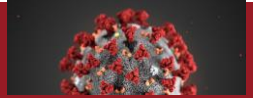
Source: Detailed case information received by PHAC from provinces and territories, standardized to the July 1, 2020, post-census population estimate.
Note: Data are analyzed based on date reported to PHAC. Note that there is a period of time (lag time) where it is expected that cases have occurred but have not yet been reported nationally. Therefore, COVID-19 cases reported to PHAC during week 31 may include cases that occurred (based on date of illness onset, or lab related dates) in previous weeks.
*Age-standardized incidence could not be calculated as data were either not reported to PHAC during week 31 or were not included in the national dataset prior to the analysis being completed.
**The age standardized incidence rate for Canada only includes provinces and territories for which data was available for week 31.

Table 3 outlines the total number of new cases, resolved cases, and deaths reported during week 31.

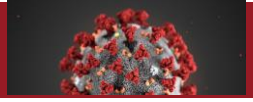
- Eleven provinces (British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Quebec, Newfoundland and Labrador, New Brunswick, Nova Scotia, Prince Edward Island, and Northwest Territories) reported more new cases than new resolved cases during week 31.

Table 3. Summary of new COVID-19 cases, resolved cases, and deaths reported in Canada, and by province or territory, during week 31 (01 August to 07 August 2021)

Province/Territory	New cases	New resolved cases	New deaths
British Columbia	2,212	751	2
Alberta	1,873	654	2
Saskatchewan	453	300	4
Manitoba	173	169	6
Ontario	1,620	1,113	21
Québec	1,464	776	1
Newfoundland and Labrador	5	1	0
New Brunswick	50	13	0
Nova Scotia	14	9	0
Prince Edward Island	4	0	0
Yukon	33	54	2
Northwest Territories	2	1	0
Nunavut	0	0	0
Canada	**7 902**	**3 841**	**38**



Source: Provincial and Territorial MOH websites



DEMOGRAPHIC DISTRIBUTION[a]

[a] Detailed case information received by PHAC from provinces and territories
Note: Data are analyzed based on PHAC report date.

- Cases for which PHAC received detailed case-level information during week 31 (01 August to 07 August 2021) (n=8 847) ranged in age from less than one year to 103 years of age. The median age was 31 years, compared to the median age of 31 observed during week 31.
- Table 4 presents a summary of the age and gender distribution of COVID-19 cases reported to PHAC during week 31:
    - Seventy-three percent (73%) of cases were under 40 years of age
    - The highest proportions of cases by age group were observed among those aged 20-29 (31%), followed by those 0-19 years (22%).
    - The highest age-specific incidence rates were observed among those aged 20-29 years (54.0 cases per 100 000 population).

Table 4. Age, gender distribution, and rate of COVID-19 cases reported to PHAC, during week 30 (25 July to 31 July 2021)

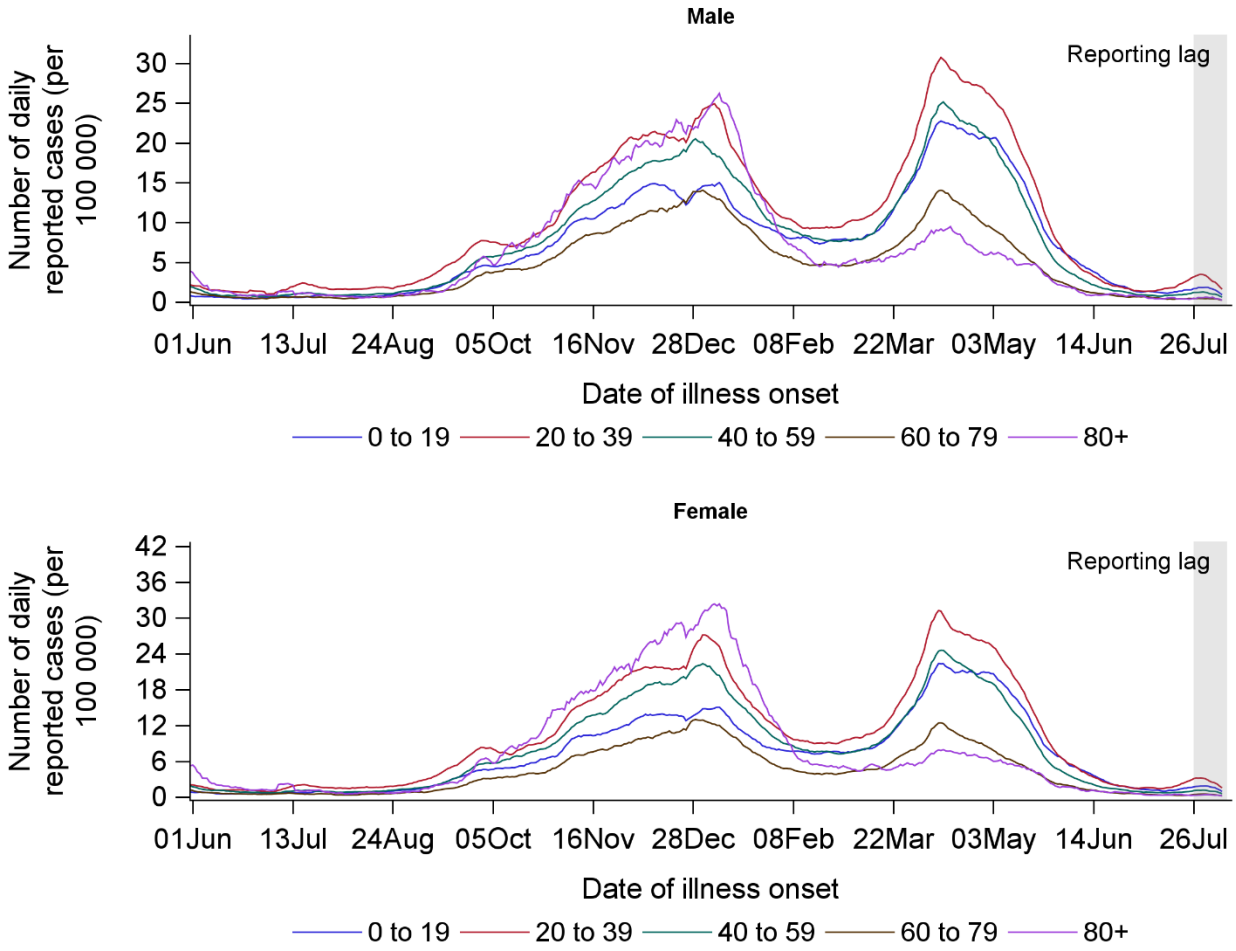
Age groups	Female			Male			Total[a]		
	n	%	Rate	n	%	Rate	n	%	Rate
≤ 19	962	22.4	24.2	1017	22.3	24.4	1979	22.4	24.3
20-29	1400	32.6	56.8	1363	29.9	51.2	2763	31.2	54.0
30-39	794	18.5	30.2	955	21.0	35.8	1749	19.8	33.0
40-49	485	11.3	19.8	554	12.2	23.0	1039	11.7	21.4
50-59	328	7.6	12.6	346	7.6	13.4	674	7.6	13.0
60-69	182	4.2	7.5	182	4.0	7.9	364	4.1	7.7
70-79	91	2.1	5.8	83	1.8	5.8	174	2.0	5.8
80+	51	1.2	4.9	54	1.2	7.4	105	1.2	6.1
Total	4293	100.0	20.2	4554	100.0	21.1	8847	100.0	20.7

Source: Detailed case information received by PHAC from provinces and territories. Rates are presented per 100 000 individuals in the given age group based on the 1 July 2020 post-census population estimate.
Note: Data are analyzed based on date reported to PHAC. Note that there is a period of time (lag time) where it is expected that cases have occurred but have not yet been reported nationally. Therefore, COVID-19 cases reported to PHAC during week 31 may include cases that occurred (based on date of illness onset, or lab related dates) in previous weeks.
Note: Cases with missing gender or age were excluded. Where available, gender data was used; when gender data was unavailable, sex data was used. Reliable data on gender diverse respondents are unavailable due to small counts.
[a] Cases not identified as male, or female were removed from the total due to small numbers.

Figure 3 presents cases by date of illness onset, stratified by gender, and adjusted for population at the national level. For week 31, figure 3 illustrates the following trends:

- Daily rates of cases are increasing as of mid-July 2021.
- Daily rates of cases among the 20-39 year age groups report the highest daily rates for both males and females.
- Daily rates of cases remain the lowest among individuals in the 60-79 and 80 years and older age groups for both males and females.

Figure 3. Daily rate of cases per 100 000 population, by age and gender, from 1 June 2020 to 07 August 2021



Source: Detailed case information received by PHAC from provinces and territories. Rates are calculated based on the 1 July 2020 post-census population estimate.

Note: The shaded area represents a period of time (lag time) where it is expected that cases have occurred but have not yet been reported nationally. The earliest of the following dates were used as an estimate: Onset date, Specimen Collection Date, Laboratory Testing Date, Date Reported to Province or Territory, or Date Reported to PHAC.

Note: Where available, gender data was used; when gender data was unavailable, sex data was used. Reliable data on gender diverse respondents are unavailable due to small counts.

TRANSMISSION

TEMPORAL DISTRIBUTION BY EXPOSURE CATEGORY[a]

[a] Detailed case information received by PHAC from provinces and territories

During week 31 (01 August to 07 August 2021), exposure and date of illness onset information was available for 724 cases. Of these:

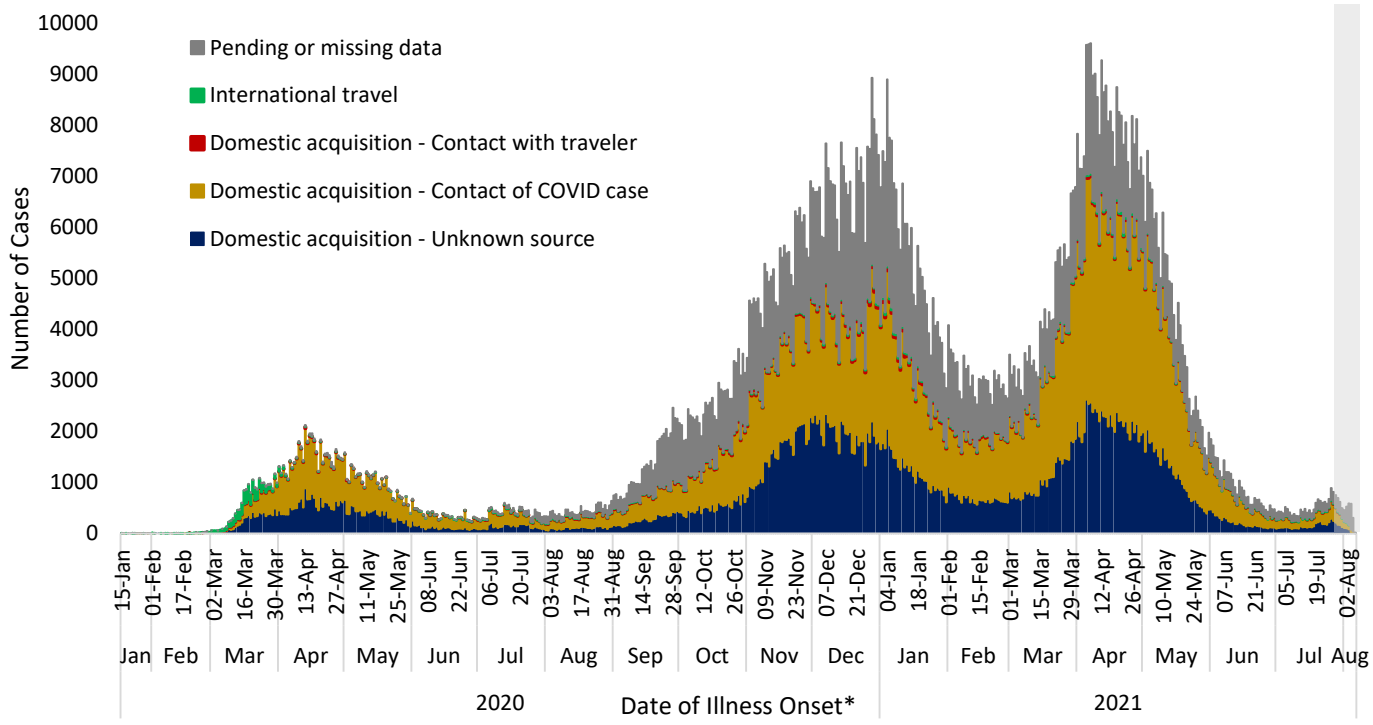
- 377 cases (52%) reported exposure in Canada to a known COVID-19 case;
- 334 cases (46%) reported exposure in Canada to an unknown source;
- 13 cases (2%) reported having travelled outside of Canada during the exposure period; and
- 0 cases (0%) reported exposure to a traveller.

Jurisdictions update exposure status on an ongoing basis as case investigations are completed and may result in changes to the percent distributions by exposure type for previous weeks (Figure 4).

Of the 993 290 cases submitted as of 07 August 2021 with information on the source of exposure and date of illness onset provided to date:

- 595 666 cases (60%) reported exposure in Canada to a known COVID-19 case;
- 378 845 cases (38%) reported exposure in Canada to an unknown source;
- 10 150 cases (<1%) reported having travelled outside of Canada during the exposure period; and
- 8 629 cases (<1%) reported exposure to someone who had travelled.

Figure 4. Number of reported COVID-19 cases in Canada, by date of illness onset* and exposure category as of 07 August 2021 (n=993 290)

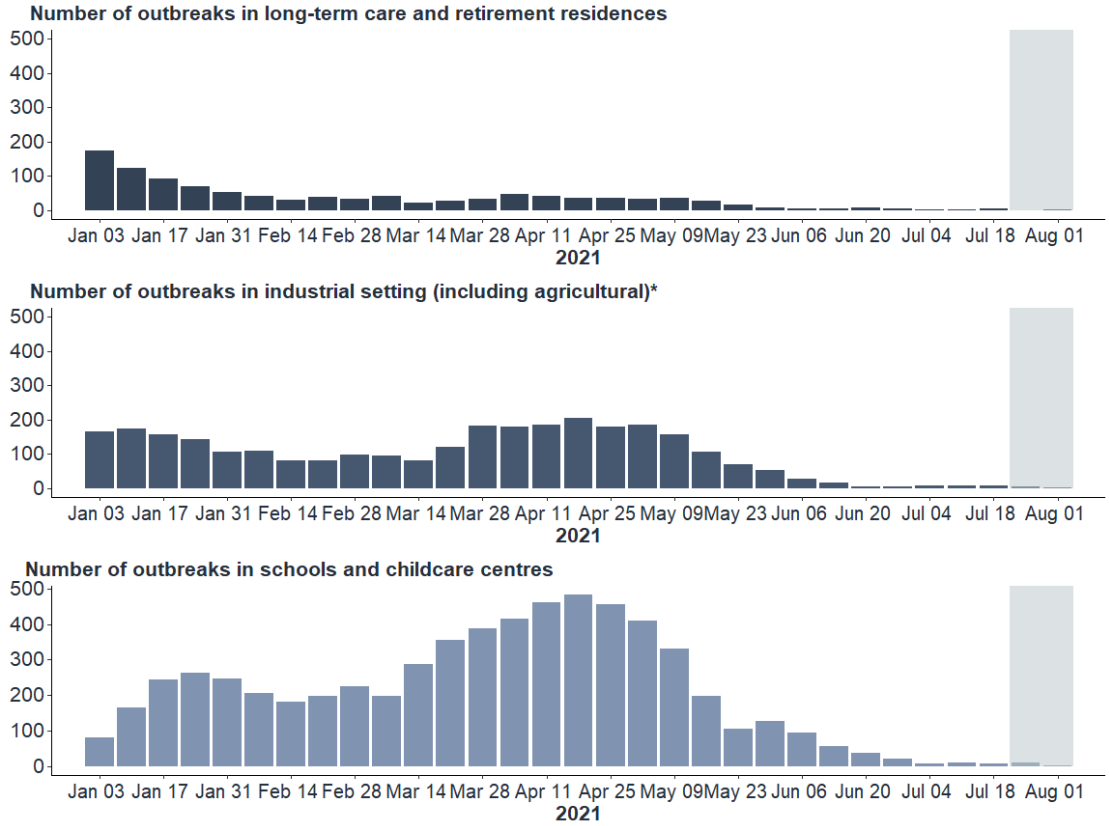


Source: Detailed case information received by PHAC from provinces and territories
Note: The shaded area represents a period of time (lag time) where it is expected that cases have occurred but have not yet been reported nationally. There is missing information for exposure variables from several provinces and territories.
* The earliest of the following dates were used as an estimate: Onset date, Specimen Collection Date, Laboratory Testing Date, Date Reported to Province or Territory, or Date Reported to PHAC.

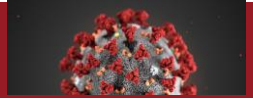
OUTBREAKS

- Outbreaks of COVID-19 have been detected in multiple settings including acute care, community healthcare, long-term care and retirement residences, congregate living, correctional facilities, industrial settings, personal care, restaurant/bar/retail, school and childcare centres, and small, remote, or isolated community settings.
- Outbreaks have been a significant source of COVID-19 spread in Canada and point to vulnerabilities in closed and crowded settings.
- There has been significant interest in the effect of COVID-19 on outbreaks in **long-term care facilities and retirement residences.** Since the start of 2021, there has been a drastic decrease in the number of these outbreaks. The number of outbreaks in the past few weeks remain relatively stable (Figure 5).
- In **industrial settings**, a decrease in the number of outbreaks was observed in early 2021, followed by a resurgence in late March. In late April, these settings experienced a rapid decrease in the number of outbreaks reported (Figure 5).
- In **schools and childcare centres,** a small increase in the number of outbreaks was observed in early 2021 followed by a larger increase in mid-March. In late April, this setting experienced a rapid decrease in the number of outbreaks reported (Figure 5).

Figure 5. Number of reported outbreaks in long-term care facilities and retirement residences, industrial settings (including agricultural)*, and acute care settings as of 07 August 2021



Source: Provinces and Territories submitted outbreak data (90) and publicly reported outbreak data, including Provincial and Territorial websites
Note: See Technical Notes for more information on interpretation and data limitations.
Note: The shaded area represents a period of time (lag time) of two weeks where it is expected that outbreaks have occurred but have not yet been reported nationally.
*Includes settings such warehouse, mining, oil sands work site, construction, processing and distribution centres, as well as transportation/delivery trucks.



LABORATORY-CONFIRMED COVID-19 DETECTION

LABORATORY TESTS AND PERCENT POSITIVITY

During week 31 (01 August to 07 August 2021), an average of 56 291 tests were performed daily, reflecting a rate of 148.1 tests performed daily per 100 000 population across Canada. The weekly percentage of tests positive was 2.3 during week 31, an increase from the previous week (Table 5).

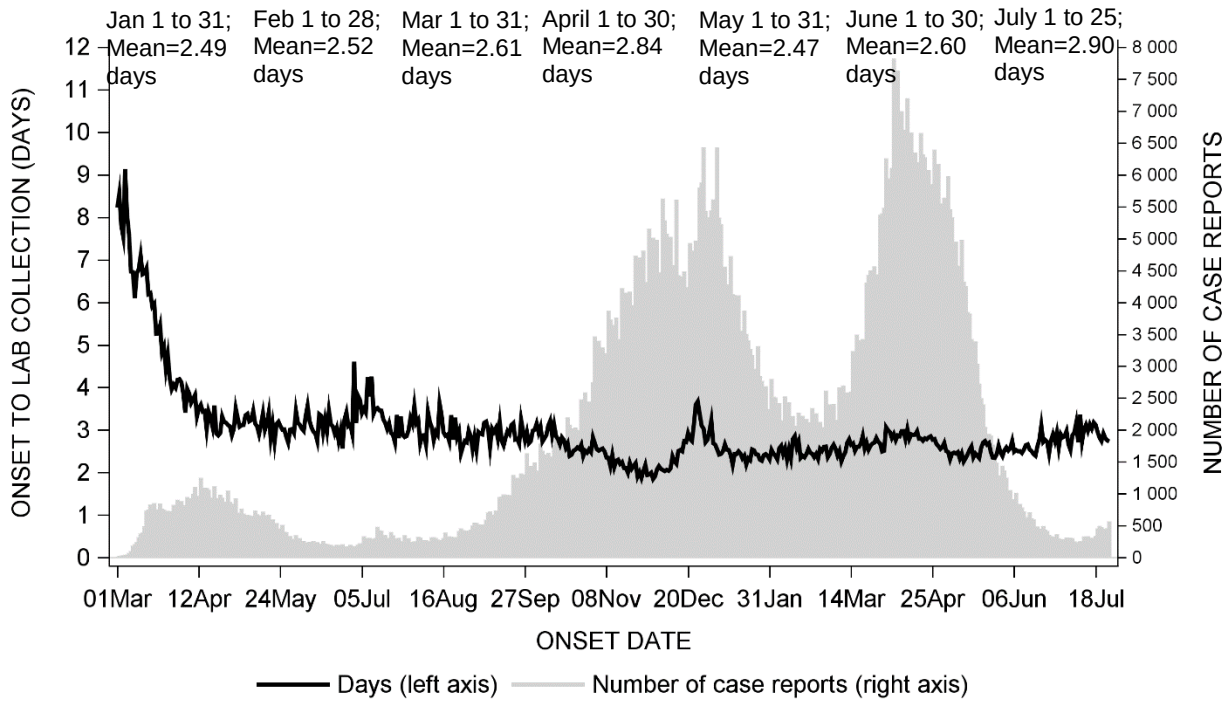
Table 5. Summary of COVID-19 tests performed in Canada, by province or territory, for week 31 (01 August to 07 August 2021)

Province/Territory	Cumulative number of tests performed as of 07 August 2021	Week 31 (01 August to 07 August 2021)		
		Number of tests performed daily (7-day moving average[1])	Number of tests performed daily per 100 000 population (7-day moving average[1])	Percentage of tests positive (7-day moving average[1])
British Columbia	3 169 755	9 577	186.0	4.0%
Alberta	4 910 899	6 367	144.0	4.6%
Saskatchewan	970 040	1 514	128.4	5.1%
Manitoba	932 471	1 569	113.8	2.1%
Ontario	16 574 555	17 579	119.3	1.4%
Québec	10 466 251	15 821	184.5	1.4%
Newfoundland and Labrador	315 427	210	40.3	0.4%
New Brunswick	398 579	698	89.4	1.0%
Nova Scotia	1 051 740	2 740	279.8	0.1%
Prince Edward Island	180 841	180	112.9	0.4%
Yukon[2]	9 129	NA	NA	NA
Northwest Territories	26 014	26	58.5	0.5%
Nunavut	18 657	9	22.9	0.00%
Canada[3]	39 024 358	56 291	148.1	2.3%

Source: National Microbiology Laboratory (NML) Data for laboratory analyses, standardized to the July 1, 2020, post-census population estimate.
Note: Laboratory testing numbers may be an underestimate due to reporting delays and may not include additional sentinel surveillance or other testing conducted in the province or territory.
[1] The 7-day moving average is the total of the daily numbers for the previous 7 days (up to and including the day of the last update), divided by the number of days for which data is available.
[2]Laboratory data for this province or territory were not available for week 31.
[3] The number of tests performed and the weekly percentage of tests positive for Canada only include provinces and territories for which data was available for week 30. The national 7 day moving average number of tests performed is calculated by summing the 7-day moving average from the provinces and territories.

The mean time from symptom onset to lab specimen collection increased to 2.90 days in July 2021. This compares to the mean of 2.60 days in June 2021 (Figure 6).

Figure 6. Onset date to laboratory collection date for cases reported to PHAC as of 07 August 2021



Source: Detailed case information received by PHAC from provinces and territories
Note: Date of symptom onset to date of specimen collection intervals of >15 days are deemed outliers, and not included in this figure

VARIANTS OF CONCERN

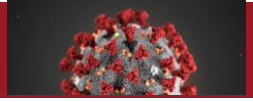
All viruses, including COVID-19, change, or mutate, over time. Not all mutations are of concern. However, some changes result in variants of concern (VOC). A VOC has changes that are significant to public health. For example, they might:

- spread more easily
- cause more severe illness
- require different treatments, or
- not respond the same to current vaccines

Although COVID-19 cases are declining, VOCs represent the majority of reported COVID-19 cases

- The proportion of cases classified as a VOC remains at approximately 70% [a].
- Nationally, the proportion of cases classified as B.1.1.7 (Alpha) and P.1 (Gamma) are decreasing and has been displaced as the dominant VOC by B.1.617.2 (Delta). B.1.617.2 (Delta) currently accounts for 43% of all newly reported cases; and 65% of newly reported VOC cases.
- B.1.617.2 (Delta) and P.1 (Gamma) cases are more likely to be hospitalized than B.1.1.7 (Alpha) cases.
- A greater proportion of B.1.617.2 (Delta) cases are partially vaccinated and/or fully vaccinated compared to B.1.1.7 (Alpha), B.1.351 (Beta), and P.1 (Gamma) cases.

Source: Detailed case information received by PHAC from provinces and territories
Note: Data are analyzed based on specimen collection date. VOC identification requires additional laboratory testing which results in an expected delay between case reporting and updates on VOC status. Differences in jurisdictional strategies for VOC screening and sequencing affect the interpretation of national trends and may limit the comparability between jurisdictions and over time. Not all COVID-19 VOC cases can be detected through screening or sequencing in each jurisdiction.
[a] Data as of 09 August, 2021



SEVERITY INDICATORS

HOSPITALIZATIONS, INTENSIVE CARE, AND DEATHS

During week 31 (01 August to 07 August 2021), detailed case information on hospitalization status was available for 6 527 cases. Among these cases:

- **211 (3%)** were hospitalized (including ICU admission), of whom:
  - **40 (19%)** were admitted to ICU.

Among the total number of hospitalizations reported during week 31 for which age information was available, 36% (n=75/211) were 20 to 39 years of age, 22% (n=46/211) were 40 to 59 years of age, and 12% (n=25/211) were 80 years and older (Table 6).

As of 07 August 2021, case information on hospitalization status was available for 1 007 433 cases, where:

- **75 570 (8%)** were hospitalized (including ICU admission), of whom:
  - **14 345 (19%)** were admitted to ICU.

Since the beginning of the outbreak, the 60 to 79 year age group has accounted for the highest proportion of cases hospitalized and admitted to ICU, followed closely by the 80 years and older age group (see table A5 in annex for cumulative counts).

Table 6. Number of COVID-19 cases hospitalized, and admitted to ICU, overall and by gender and age group, reported to PHAC during week 31[a] (01 August to 07 August 2021)

Age groups	Hospitalized – non-ICU			Hospitalized – ICU		
	Female	Male	Total	Female	Male	Total
≤ 19	7	4	11	0	0	0
20-39	37	26	63	5	7	12
40-59	13	20	33	6	7	13
60-79	14	27	41	6	7	13
80+	8	15	23	1	1	2
Total	**79**	**92**	**171**	**18**	**22**	**40**

Source: Detailed case information received by PHAC from provinces and territories

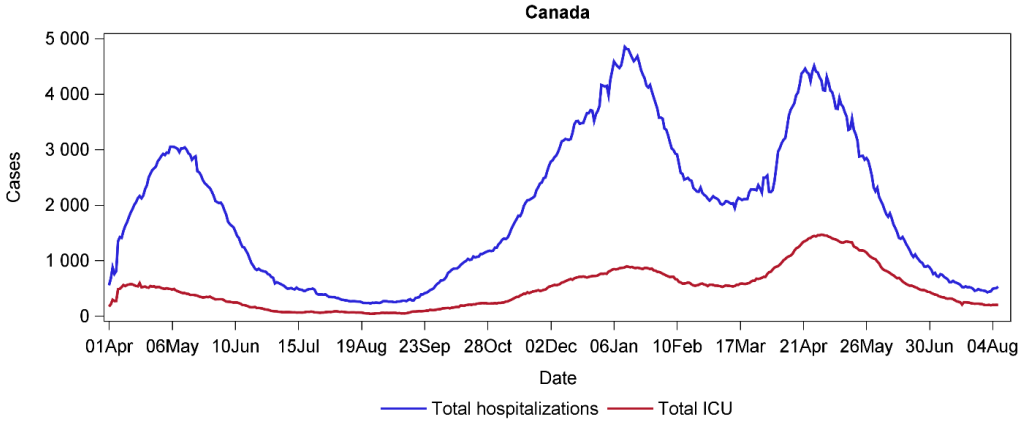
Note: Non-ICU hospitalizations and ICU counts are mutually exclusive. Cases with missing gender, sex or age were excluded. Where available, gender data were used; when gender data were unavailable, sex data were used. Reliable data on gender diverse respondents are unavailable due to small counts.

[a] Data are analyzed based on date reported to PHAC. Note that there is a period of time (lag time) where it is expected that cases have occurred but have not yet been reported nationally. Therefore, COVID-19 cases reported to PHAC during week 31 may include cases that occurred (based on date of illness onset, or lab related dates) in previous weeks.

Based on detailed case information received by PHAC from provinces and territories, the overall cumulative hospitalization rate (including ICU admissions) is 199 cases per 100 000 population, with the highest rates observed among those aged 80 years and older (476 cases per 100 000 population). For week 31, the highest hospitalization rates were observed in those 80 years of age and older (0.26 cases per 100 000 population).

Following a sharp decline in hospitalizations, and stabilized numbers of ICU admissions since early January 2021, the number of COVID-19 cases in hospital and ICU increased in March/early April 2021. Since April 2021, the number of cases in hospital and ICU has continued to decrease nationally. On 07 August 2021, there were 530 hospitalizations and 202 cases in ICU, representing a 2.7% increase in the seven-day moving average of hospitalized cases, and 7.1% decrease in ICU admissions, compared to one week prior (Figure 7). On 0 August 2021, the number of COVID-19 cases in hospital and ICU was two times lower compared to the previous month (931 hospitalizations and 461 ICU admissions on 30 June 2021).

Figure 7. Number of COVID-19 cases in hospital and ICU daily in Canada, as of 07 August 2021



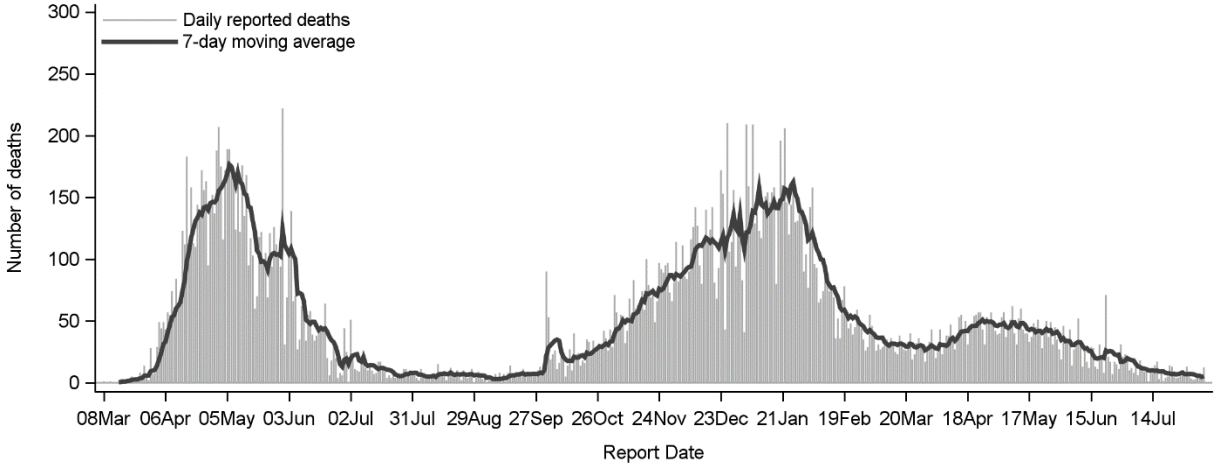
Source: Provincial and Territorial MOH websites
Note: The data included in this figure represents the number of cases currently hospitalized and/or in ICU on a given reporting date and does not represent the number of new hospitalizations or ICU admission over time. Cases admitted to the ICU are included in the hospitalization counts; these categories are not mutually exclusive.

During week 31, there were 38 COVID-19 related deaths reported in Canada.

- This represents a -31% decrease compared to the previous week.
- This amounts to an average of eight deaths reported per day, compared to an average of seven deaths reported per day in the previous week.
- Following a large decreasing trend in the number of deaths observed since late January 2021, the daily number of reported deaths gradually increased in April 2021. Since May 2021, there has been an overall low and steady trend in the number of deaths (Figure 8).

Of the deaths reported during week 31, jurisdictions submitted case-level information to PHAC for nine deaths, and four were aged 80 years and older. To date, deaths are highest among those aged 80 years and older (Table A4 in the annex, cumulative counts).

Figure 8. Daily number of COVID-19 related deaths reported in Canada (and 7-day moving average), as of 07 August 2021 (N=26 632)



Source: Provincial and Territorial MOH websites
Note: The 7-day moving average is a trend indicator that captures the arithmetic mean of the daily reported deaths over the previous seven days. The moving average helps smooth out day-to-day variability in reporting, filtering out the "noise" of short-term fluctuations. Fluctuations can be attributed to retrospective data or provinces or territories reporting cases at a reduced frequency.

MODELLING

Estimates of transmission rates in Canada: Effective reproductive rate (*Rt*)

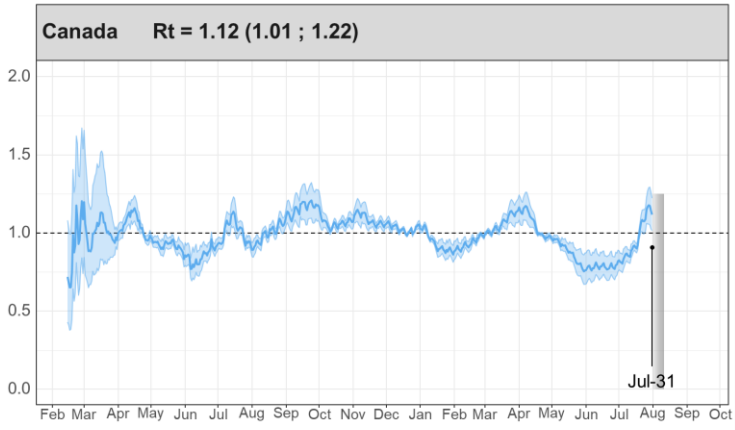
Rt is the time variable reproduction rate, representing the average number of newly infected people for each infected person. If Rt is less than 1 at a particular time (t), than the average number of people infected by one infected person is less than one, so the epidemic is being brought under control. If Rt is greater than 1, the average number of people infected by one infected person is greater than one, and the epidemic is growing. A value of Rt above 1 indicates that there is active community transmission, meaning that the disease will continue to spread in the population. The higher the Rt value, the faster the disease is spreading, which leads to an increase in the incidence of new cases.

However, there are some limitations to consider. As the epidemic continues, the Rt may not capture the current state of the epidemic with low case burden and the value must be interpreted based on the current landscape. The Rt can easily fluctuate when case numbers are low. It is also an average Rt for a population and does not point to local outbreaks driving case counts. Since the method used to calculate Rt is highly sensitive to the reported number of new cases, community outbreaks within specific provinces and territories will cause the estimated Rt value in that respective region to be higher, which may not always accurately depict overall transmission in the province or territory as a whole.

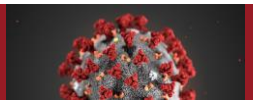
Figure 9 shows the Rt over time.

- In 2020, the reproductive rate was hovering under 1 in May and early June, followed by fluctuations in July. In early August, the Rt increased until the end of September when it decreased to just above 1. Between October 2020 and January 2021, the Rt fluctuated just above 1 with a slight increase in early November and early January.
- Starting in mid-January 2021, the Rt decreased to below 1, indicating that the epidemic was reducing nationally. From February to mid-April 2021, the Rt gradually increased, surpassing 1 in mid-March 2021. Since mid-May 2021, the national Rt has decreased below 1, however, since late-July, the national Rt has increased with an Rt value of 1.12 as of 31 July 2021.

Figure 9. Reproductive rate in Canada based on date of case report



Source: Calculated from detailed case information received by PHAC from provinces and territories
Note: Fluctuations are attributed to provincial and territorial reporting delays and non-reporting on the weekends



FORECASTING

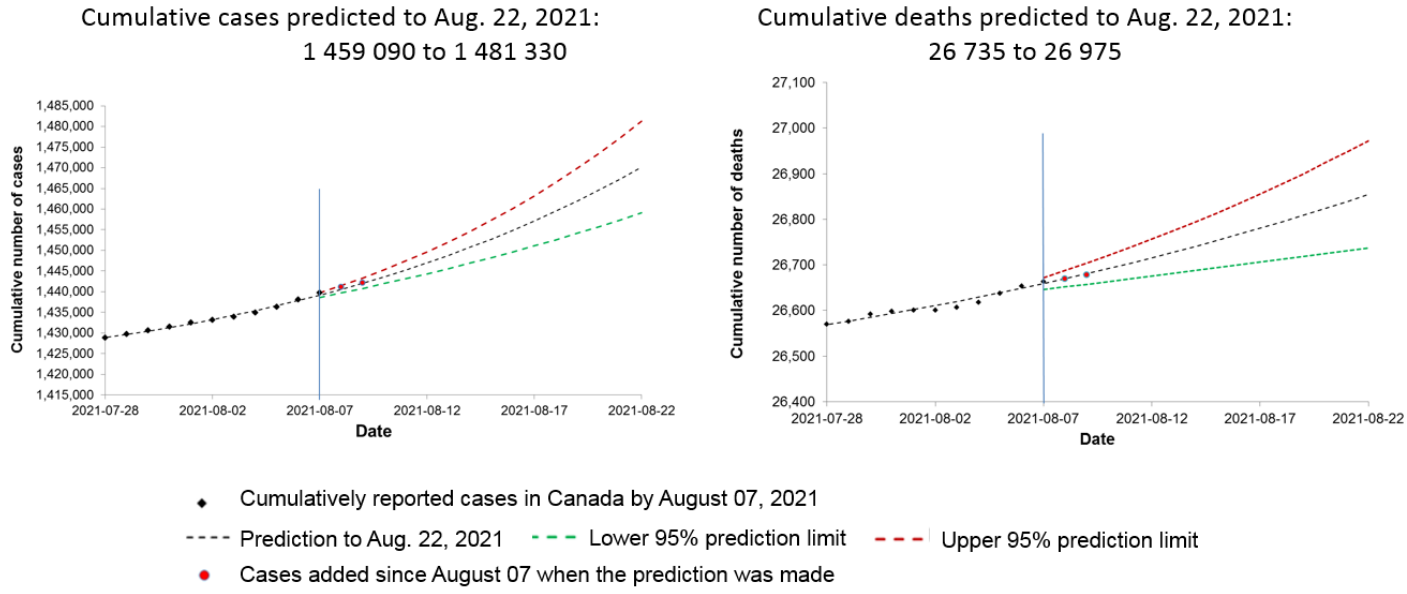
Canada's approach to modelling:

Models cannot predict the course of the COVID-19 pandemic, but can help us understand all possible scenarios, support decisions on public health measures and help the health care sector plan for these scenarios.

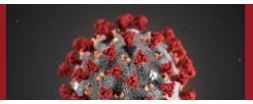
Forecasting models use data to estimate how many new cases can be expected in the coming weeks. Figure 10 below shows the projected number of cases and deaths in Canada, with a 95 prediction interval calculated to 22 August 2021, using available data as of 07 August 2021.

- According to forecasting, between 1 459 090 to 1 481 330 cumulative reported cases and 26 735 to 26 975 cumulative reported deaths are expected by 22 August 2021
- The black dots represent actual data (cumulative cases and cumulative deaths) prior to 07 August 2021 and the dashed lines show the predicted trajectories after that date.
- It is important to communicate uncertainties in the predictions. The red and green lines represent the upper and lower limits with 95 confidence, respectively.
- If the added data points since 07 August 2021 stay between the red and green lines, it means both (i) the prediction model is performing as expected; (ii) data generated by the epidemic and reporting mechanisms are as expected.
- If the added data points since 07 August 2021 fall outside these limits, especially above the red line, the model detects unexpected signals that require further epidemiologic investigation.

Figure 10. Projected numbers to 22 August 2021 and 95 prediction intervals based on data reported as of 07 August 2021



For more information, please visit: https://www.canada.ca/en/public-health/services/diseases/coronavirus-disease-covid-19/epidemiological-economic-research-data/mathematical-modelling.html



TECHNICAL NOTES

The data in the report are based on information from various sources described below. The information presented for case-based analyses, trend analyses and laboratory analyses are available as of **07 August 2021 at 4 p.m. EDT.**

DATA SOURCES AND DATA CAVEATS

Epidemiological data received by PHAC

Some of the epidemiological data for this report are based on detailed case information received by PHAC from provinces/territories (P/Ts). This information is housed in the PHAC COVID-19 database. Case counts and level of detail in case information submitted to PHAC varies by P/T due to:

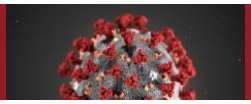
- Possible reporting delay between time of case notification to the P/T public health authority and when detailed information is sent/received by PHAC.
- Preliminary data may be limited, and data are not complete for all variables.
- Data on cases are updated on an ongoing basis. The current report reflects data most recently received by PHAC and are subject to change.
- Variation in approaches to testing and testing criteria over time within and between P/Ts.
- Variants of concern (VOC) identification requires additional laboratory testing which results in an expected delay between case reporting and updates on VOC status. PHAC's national case definitions, classifications and public health actions for VOCs can be found here: https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/health-professionals/testing-diagnosing-case-reporting/sars-cov-2-variants-national-definitions-classifications-public-health-actions.html
- The lag time from illness onset to PHAC report date is approximately two weeks and data within this period is subject to change.
- Case attribution of COVID-19 infection to a province or territory is determined by the individual's place of residence and captured as reported by provincial and territorial health partners.

Note: Missing data for hospitalizations, ICU admissions, and deceased were not included in calculations. Unless calculations were broken down by age and gender, cases with missing values for age and gender were included. P/Ts may define gender differently and some may be referring to biological sex. Case severity is likely underestimated due to underreporting of related variables, as well as events that may have occurred after the completion of public health reporting, and therefore is not captured in the case report forms. Transmission data should be interpreted with caution as information on exposure are missing from several provinces and territories.

Provincial and territorial case counts

P/T information on case counts, resolved cases, and deaths associated with COVID-19 are collected from publicly available P/T websites, generally from the P/T ministry of health. Case definitions may vary by P/T.

- National COVID-19 case definitions are provided by PHAC for the purpose of standardized case classification and reporting. PHAC's national case definitions can be found here: https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/health-professionals/national-case-definition.html



- Only cases and deaths meeting P/T's definition for case classification are reported. For details on case definitions, please consult each P/T ministry of health website.
- Case attribution of COVID-19 infection to a province or territory is determined by the individual's place of residence and captured as reported by provincial and territorial health partners.
- The number of cases or deaths reported during previous weeks may differ slightly from those reported on provincial and territorial websites as these websites may update historic case and death counts as new information becomes available.
- For the most up to date information, please refer to the provincial and territorial MOH websites.

Laboratory information

Data on the number of tests conducted in each P/T are received from the National Microbiology Laboratory (NML).

- Laboratory testing numbers may be an underestimate due to reporting delays and may not include additional sentinel surveillance or other testing performed. They are subject to changes as updates are received.

Outbreak data

Reporting delays and gaps in information that are available at the federal level present difficulties in reporting on local outbreaks. Data on COVID-19 outbreaks at the federal level is an amalgamation of P/T submitted outbreak data and web-scraped outbreak data from media and P/T public health authority websites. There are several important limitations to these data:

- P/T submitted outbreak data currently account for more than 90 of outbreaks in the amalgamated dataset; it is minimally influenced by outbreaks collected by web-scraping.
- PT submission only included data from January 1, 2021 onward.
- All outbreak data include outbreaks with a reported case count of two or more confirmed cases, in line with the national outbreak definition.

Population data

- Canadian population data from Statistics Canada Population estimates on 1 July 2020 are used for age-standardized and age-specific rate calculations.

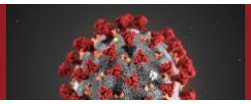
COVID-19 Activity Levels

National COVID-19 activity levels were developed in consultation with provincial and territorial partners to monitor COVID-19 activity at the national and provincial/territorial levels using a standard set of core indicators. Based on these indicators, COVID-19 activity can range from level 0 (no activity) to level 4 (high activity).

Indicators: COVID-19 activity levels are assessed based on the following three indicators:

1. **Weekly incidence rate**
   Weekly new cases per 100 000 population
   Data source: Weekly new cases from provincial and territorial MOH websites. Rates calculated using July 1, 2020, post-census population estimate.

2. **Weekly percent positivity**
   Number of positive laboratory tests / Total number of tests



Data source: National Microbiology Laboratory (NML) data for laboratory analyses. SALT (System for Analyzing Laboratory Test counts)
Note: With consideration for weekly testing rates; this indicator is only valid if testing rate ≥ 100 tests per 100,000 population per week.

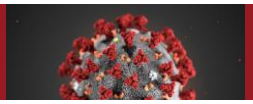
3. **Weekly proportion of cases with unlinked or unknown exposures**
   Data source: Detailed case information received by PHAC from provinces and territories
   Notes: Indicator captures if a case reported that they were (1) not associated with an outbreak, (2) not in close contact with a traveller, (3) not in close contact with a confirmed or probable case, and (4) did not travel (international or domestic). Cases missing all relevant exposure information are excluded from the calculation of this indicator.

Assessment process:

- Each indicator is assigned a level (0-4) based on standardized indicators and a trajectory (increasing, decreasing, or no change) based on a change of 10 or more compared to the previous week.
- An overall activity level is then calculated based on the mean level of all three indicators (rounding to the nearest whole number).
- An overall trajectory is calculated for each jurisdiction based on the mode of the trajectories from all three indicators.

Data Caveats:

- This information is based on data from provincial and territorial partners. For more up to date information and for public health recommendations or risk assessments, please refer to the provincial and territorial MOH websites.
- Data on cases are updated on an ongoing basis. The current report reflects data most recently received by PHAC and are subject to change. Jurisdictions update exposure status on an ongoing basis as case investigations are completed and this may result in changes in the proportion of cases with unlinked or unknown exposure in previous weeks.
- There may be variations in the COVID-19 activity across a jurisdiction. It is possible that if there are outbreaks occurring in one area, this may cause the entire province or territory to display a higher level of COVID-19 activity. Weekly activity level assessments can only provide a high-level overview of COVID-19 activity using standard indicators at the national and provincial/territorial level and may not reflect the extent of geographic spread of COVID-19 at the sub-provincial or territorial level.



ANNEX

Table A1. Cumulative number of COVID-19 cases, resolved cases, and deaths reported in Canada by province or territory, as of 07 August 2021

Province/Territory	Total cases	Total resolved cases	Total deaths	Crude incidence rate per 100 000 population
British Columbia	152 261	147 627	1 773	152 261
Alberta	236 408	230 966	2 325	236 408
Saskatchewan	50 476	49 267	582	50 476
Manitoba	57 787	56 042	1 184	57 787
Ontario	552 056	540 598	9 366	552 056
Québec	379 126	365 881	11 243	379 126
Newfoundland and Labrador	1 427	1 422	7	1 427
New Brunswick	2 420	2 312	46	2 420
Nova Scotia	5 902	5 794	93	5 902
Prince Edward Island	212	208	0	212
Yukon	631	570	9	631
Northwest Territories	130	129	0	130
Nunavut	657	653	4	657
Canada [a]	1 439 506	1 401 482	26 632	1 439 506

Source: Provincial and Territorial MOH websites

[a] Includes 13 cases identified in repatriated travelers (Grand Princess Cruise ship travelers) who were under quarantine in Trenton in March 2020. Update on their status is not available.

Table A2. Age-standardized incidence rates of COVID-19 cases, by province or territory, as of 07 August 2021

Province/Territory	Cumulative age-standardized incidence rates (Per 100 000 population)
British Columbia	2954.5
Alberta	5183.5
Saskatchewan	4242.7
Manitoba	4134.5
Ontario	3717.2
Québec	4433.5
Newfoundland and Labrador	286.7
New Brunswick	300.2
Nova Scotia	625.4
Prince Edward Island	136.2
Yukon	1288.9
Northwest Territories	248.4
Nunavut	1563.6
Canada	**3772.8**

Source: Detailed case information received by PHAC from provinces and territories, standardized to the July 1 2020 post-census population estimate

Note: Data are analyzed based on date reported to PHAC.

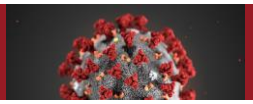


Table A3. Cumulative age and gender distribution of COVID-19 cases reported to PHAC, as of 07 August 2021

Age group	Female			Male			Total[a]		
	n	%	Rate	n	%	Rate	n	%	Rate
≤ 19	134 367	18.7	3 377.2	143 252	20.1	3 442.9	277 619	19.4	3 410.0
20-29	134 094	18.6	5 435.8	141 964	19.9	5 334.6	276 058	19.3	5 385.2
30-39	118 293	16.4	4 506.9	117 530	16.5	4 405.7	235 823	16.5	4 456.3
40-49	108 338	15.0	4 423.4	101 399	14.2	4 215.9	209 737	14.6	4 319.6
50-59	93 378	13.0	3 574.6	92 857	13.0	3 595.6	186 235	13.0	3 585.1
60-69	55 117	7.7	2 280.6	59 882	8.4	2 591.4	114 999	8.0	2 436.0
70-79	30 406	4.2	1 923.3	29 948	4.2	2 103.1	60 354	4.2	2 013.2
80+	45 971	6.4	4 380.8	25 256	3.5	3 445.9	71 227	5.0	3 913.4
Total	**719 964**	**100.0**	**3 737.8**	**712 088**	**100.0**	**3 641.9**	**1 432 052**	**100.0**	**3 689.9**

Source: Detailed case information received by PHAC from provinces and territories

[a] Cases not identified as male or female were removed from the total due to small numbers.

Note: Cases with missing gender, sex or age were excluded. Where available, gender data was used; when gender data was unavailable, sex data was used. Reliable data on gender diverse respondents are unavailable due to small counts.

Table A4. Cumulative age and gender distribution of COVID-19 deaths reported to PHAC, as of 07 August 2021

Age group	Female	Male	Total[a]
≤ 19	9	6	15
20-39	76	138	214
40-59	500	846	1 346
60-79	3 100	4 879	7 979
80+	9 501	7 549	17 050
Total	**13 186**	**13 418**	**26 604**

Source: Detailed case information received by PHAC from provinces and territories

[a] Cases not identified as male or female were removed from the total due to small numbers.

Note: Cases with missing gender, sex or age were excluded. Where available, gender data was used; when gender data was unavailable, sex data was used. Reliable data on gender diverse respondents are unavailable due to small counts.

Table A5. Cumulative age and gender distribution of cases hospitalized and admitted to ICU reported to PHAC, as of 07 August 2021

Age groups	Hospitalized – non-ICU			Hospitalized – ICU		
	Female	Male	Total	Female	Male	Total
≤ 19	584	669	1 253	76	89	165
20-39	3 957	3 100	7 057	553	698	1 251
40-59	5 754	7 812	13 566	1 521	2 784	4 305
60-79	9 339	11 562	20 901	2 543	4 552	7 095
80+	10 160	8 288	18 448	663	866	1 529
Total	29 794	31 431	61 225	5 356	8 989	14 345

Source: Detailed case information received by PHAC from provinces and territories

[a] Cases not identified as male or female were removed from the total due to small numbers.

Note: Cases with missing gender, sex or age were excluded. Where available gender data was used; when gender data was unavailable, sex data was used. Reliable data on gender diverse respondents are unavailable due to small counts.